

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re: Bidney *et al.* Confirmation No.: To be assigned  
Appl No.: To be assigned Group Art Unit: To be assigned  
Filed: Filed concurrently herewith Examiner: To be assigned  
For: SUNFLOWER ANTI-PATHOGENIC PROTEINS AND GENES AND THEIR  
USES

August 7, 2003

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT  
CITATION UNDER 37 C.F.R. § 1.97**

Attached is a list of documents on form PTO-1449.

It is requested that the Examiner consider these documents and officially make them of record in accordance with the provisions of 37 C.F.R. § 1.97 and Section 609 of the MPEP. By submitting the listed documents, Applicant in no way makes any admission as to the prior art status of the listed documents, but is instead submitting the listed documents for the sake of full disclosure.

Any foreign patents or non-patent literature documents items are attached, except those that were supplied in, or cited by the Office during prosecution of, parent Application No. 09/589,733 filed June 8, 2000. Since the benefit of this application was claimed under 35 U.S.C.

120, no copies need to be furnished in accordance with 37 C.F.R. 1.98(d); however, copies will be furnished on request.

Respectfully submitted,

*Karen M Morse*

Karen M. Morse  
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<b>Customer No. 29122</b> <b>ALSTON &amp; BIRD LLP</b> Bank of America Plaza 101 South Tryon Street, Suite 4000 Charlotte, NC 28280-4000 Tel Raleigh Office (919) 862-2200 Fax Raleigh Office (919) 862-2260	"Express Mail" mailing label number EV 184330810 US Date of Deposit August 7, 2003  I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450  <i>Marilyn Munoz</i> Marilyn Munoz
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(Revised 04/2003)

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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of

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		<b>Complete if Known</b>	
Application Number	To be assigned		
Filing Date	August 7, 2003		
First Named Inventor	Dennis L. Bidney		
Group Art Unit	To be assigned		
Examiner Name	To be assigned		
Attorney Docket Number	035718/246455		

### U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document Number Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages of Relevant Figures Appear
	1.	US-5,801,028	09-01-1998	Bressan <i>et al.</i>	
	2.	US-09/589,733	06-08-2000	Bidney <i>et al.</i>	
	3.	US-09/685,292	10-10-2000	Bao <i>et al.</i>	

### FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No.	Foreign Patent Document Country Code - Number Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	English Language Translation Attached
	4.	EP 0332104 A2	09-13-1989	Ciba-Geigy AG		
	5.	EP 0392225A2	10-17-1990	Ciba-Geigy AG		
	6.	EP 0460753A2	12-11-1991	Mogen International, N.V.		
	7.	WO 92/17580 A1	10-15-1992	Rhone-Poulenc Agrochimie		
	8.	WO 93/05153 A	03-18-1993	ICI PLC		
	9.	WO 94/08010	04-14-1994	Monsanto Company		
	10.	WO 95/19443 A2	07-20-1995	Ciba-Geigy AG		
	11.	WO 98/13478 A2	04-02-1998	Mogen International N.V.		
	12.	WO 99/04012	01-28-1999	Pioneer Hi-Bred International, Inc.		
	13.	WO 99/50428 A	10-07-1999	Mogen Int.		
	14.	WO 00/11175 A	03-02-2000	Bolle, M. <i>et al.</i>		
	15.	WO 00/11196 A	03-02-2000	Zeneca, Ltd. (GB)		
	16.	EP 1 033 405 A	09-06-2000	Ceres, Inc.		
	17.	WO 00/68405 A	11-16-2000	DuPont		
	18.	WO 00/78983 A2	12-28-2000	Pioneer Hi-Bred International, Inc.		

Examiner  
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STATEMENT BY APPLICANT**

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**Complete if Known**

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Attorney Docket Number 035718/246455

**OTHER DOCUMENTS**

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s) , volume-issue number(s), publisher, city and/or country where published.	English Language Translation Attached
	19.	BROUN <i>et al.</i> , "Catalytic Plasticity of Fatty Acid Modification Enzymes Underlying Chemical Diversity of Plant Lipids," <i>Science</i> , Nov. 1998, pp. 1315-1317, Vol. 282	
	20.	CECCARDI, <i>et al.</i> , "A Novel Protein Associated with Citrus Blight Has Sequence Similarities to Expansin," <i>Plant Molecular Biology</i> (1998) pp.775-783, Vol.38.	
	21.	DATTA <i>et al.</i> , Database BIOSIS Accession No. PREV199903310941, "Over-Expression of the Cloned Rice Thaumatin-Like Protein (PR-5) Gene in Transgenic Rice Plants Enhances Environmental Friendly Resistance to Rhizoctonia Solani Causing Sheath Blight Disease," Abstract, <i>Theoretical and Applied Genetics</i> , May 1999, pp. 1138-1145, Vol. 98, No. 6-7.	
	22.	DITTRICH, H., <i>et al.</i> , " Molecular Cloning, Expression, and Induction of Berbine Bridge Enzyme, an Enzyme Essential to the Formation of Benzophenanthridinealkaloids in the Response of Plants to Pathogenic Attack," <i>National Academy of Science</i> , 1991, pp. 9969-9973, Vol.88(1), Washington.	
	23.	DOMON, <i>et al.</i> , "Exon Shuffling in Anther-Specific Genes from Sunflower", <i>Molecular &amp; General Genetics</i> , 1994, pp. 312-317, Vol. 244(2).	
	24.	DOMON, <i>et al.</i> , "Nucleotide Sequence of Two Anther-Specific cDNAs from Sunflower ( <i>Helianthus annus</i> L.)," <i>Plant Molecular Biology</i> , 1990, pp. 643-646, Vol. 15, Nijhoff Publishers, NL.	
	25.	DONG <i>et al.</i> , Database BIOSIS Accession No. PREV199799414966, "In Vivo and In Vitro Activity of Truncated Osmotin that is Secreted Into the Extracellular Matrix," <i>Plant Science</i> , 1996, pp. 123-1341, Vol. 121, No. 2.	
	26.	FACCHINI, <i>et al.</i> , "Molecular Characterization of Berberine Bridge Enzyme Genes From Opium Poppy," <i>Plant Physiology</i> , 1996, pp. 1669-1677, Vol. 112.	
	27.	GENTZBITTEL <i>et al.</i> (1998), "Cloning of Molecular Markers for Disease Resistance in Sunflower, <i>Helianthus annuus</i> L.," <i>Chem. Appl. Genet.</i> 96:519-525.	
	28.	HAUSCHILD, <i>et al.</i> , "Isolation and Analysis of Gene bbe1 encoding the Berbine Bridge Enzyme from California Poppy <i>Eschscholzia californica</i> ," <i>Plant Molecular Biology</i> , 1998, pp. 473-478, Vol. 36, Nijhoff Publishers, NL.	
	29.	HISASHI <i>et al.</i> , Database BIOSIS Accession No. PREV199799712464, "Purification and Characterization of Tobacco Pathogenesis-related Protein PR-5d, an Antifungal Thaumatin-like Protein," Abstract, <i>Plant and Cell Physiology</i> 1997, pp. 783-791, Vol. 38, No. 7.	
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	31.	JUNG <i>et al.</i> , "Different Pathogenesis-Related-Proteins are Expressed in Sunflower ( <i>Helianthus annuus</i> L.) in Response to Physical, Chemical and Stress Factors," <i>J. Plant Physiol.</i> 1995, pp. 153-160, Vol. 145.	
	32.	JUNG <i>et al.</i> , "Sunflower ( <i>Helianthus annuus</i> L.) Pathogenesis-Related Proteins," <i>Plant Physiol.</i> 1993, pp. 873-880, Vol. 101.	
	33.	KOIWA, <i>et al.</i> , "Purification and Characterization of Tobacco Pathogenesis-Related Protein PR-5d, an Antifungal Thaumatin-Like Protein," <i>Plant and Cell Physiology</i> , 1997, pp. 783-791, Vol. 38(7).	
	34.	LAZAR <i>et al.</i> , "Transforming Growth Factor X-Mutation of Aspartic Acid 47 and Leucine 48 Results in Different Biological Activities," <i>Molecular and Cellular Biology</i> , Mar. 1988, pp. 1247-1252, Vol. 8(3)	
	35.	LINTHORST <i>et al.</i> , "Constitutive Expression of Pathogenesis-Related Proteins PR-1, GRP and PR-S in Tobacco Has No Effect on Virus Infection," <i>The Plant Cell</i> , Mar. 1989, pp. 285-291, Vol. 1	

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use as many sheets as necessary)</i>					
Sheet	3	of	4		
<b>OTHER DOCUMENTS (continued)</b>					
36.	LIU, <i>et al.</i> , "Fine Structure and Function of the Osmotin Gene Promoter," <i>Plant Molecular Biology</i> , 1995, pp.1015-1026, Vol. 29.				
37.	LIU, <i>et al.</i> , "Osmotin Overexpression in Potato Delays Development of Disease Symptoms" <i>Proc. Natl. Acad. Sci. USA</i> , 1994, pp.1888-1892, Vol. 91.				
38.	LOULAKAKIS <i>et al.</i> , Database EMBL Accession No. Y10992				
39.	LOULAKAKIS, "Nucleotide Sequence of a <i>Vitis Vinifera L.</i> cDNA (Accession No. Y10992) Encoding for Osmotin-Like Protein (PGR97-064)," <i>Plant Physiol.</i> 1997, pp. 1464-1465, Vol. 113.				
40.	REGENTE, M., <i>et al.</i> , "A Sunflower Leaf Antifungal Peptide Active Against Sclerotinia sclerotoriorum" <i>Physiologia Plantarum</i> , 1997, pp. 178-182, Vol. 100(1)				
41.	RONALD, P. C., "Resistance Gene Evolution," <i>Plant Biology</i> (1998), pp. 294-298, Vol. 1.				
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43.	SATO <i>et al.</i> , "Synthesis and Secretion of Tobacco Neutral PR-5 Protein by Transgenic Tobacco and Yeast," <i>Biochem and Biophys Res. Commun.</i> , June 26, 1995, pp. 909-913, Vol. 211, No. 3.				
44.	SATO <i>et al.</i> , Database BIOSIS Accession No. PREV199699006022, "Ethylene-induced Gene Expression of Osmotin-like Protein, a Neutral Isoform of Tobacco PR-5, is Mediated by the AGCCGCDC <i>cis</i> -sequence," Abstract, <i>Plant and Cell Physiology</i> , 1996, pp. 249-255, Vol. 37, No. 3.				
45.	SATO <i>et al.</i> , Database EMBL Accession No. D76437, "Nicotiana Sylvestris DNA for Neutral PR-5 (Osmotin-Like Protein, PR-5d), Complete CDs, June 25, 1996.				
46.	THOMMA, <i>et al.</i> "Separate Jasmonate-Dependent and Salicylate-Dependent Defense-Response Pathways in <i>Arabidopsis</i> are Essential for Resistance to Distinct Microbial Pathogens", <i>Proc. Natl. Acad. Sci. USA</i> , 1998, pp. 15107-15111, Vol. 95.				
47.	URDANGARIN, M., <i>et al.</i> , "A Defensin Gene Expressed in Sunflower Inflorescence," <i>Plant Physiology and Biochemistry</i> , 2000, pp. 253-258, Vol. 38(3), Paris.				
48.	VIGERS <i>et al.</i> , "Thaumatin-like Pathogenesis-related Proteins are Antifungal, <i>Plant Science</i> 1992, pp. 155-161, Vol. 83.				
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50.	ZHOU, <i>et al.</i> , "The Pto Kinase Conferring Resistance to Tomato Bacterial Speck Disease Interacts with Proteins that Bind a <i>cis</i> -element of Pathogenesis-Related Genes", <i>The EMBO Journal</i> , 1997, pp.3207-3215, Vol. 16(11).				
51.	ZHU <i>et al.</i> , "Activation of Two Osmotin-like Protein Genes by Abiotic Stimuli and Fungal Pathogen in Transgenic Potato Plants," <i>Plant Physiol.</i> 1995, pp. 929-937, Vol. 108.				
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55.	EMBL Database for Accession No. X77993 (XP002160555)				
56.	NCBI Database Accession No. X15224.				
57.	NCBI Database Accession No. X12739.				
58.	NCBI Database Accession No. X15223.				
59.	NCBI Database Accession No. AAD03398.				
60.	NCBI Database Accession No. U03860				

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**OTHER DOCUMENTS (continued)**

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